## (19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 29 September 2005 (29.09.2005) (10) International Publication Number WO 2005/089741 A3

- (51) International Patent Classification<sup>7</sup>: A61K 31/137, A61P 1/00, 11/00, 11/06, 13/12, 17/00, 17/06, 19/02, 19/10, 25/00, 29/00, 37/00, 43/00
- (21) International Application Number:

PCT/GB2005/001031

- (22) International Filing Date: 17 March 2005 (17.03.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:

0406016.6	17 March 2004 (17.03.2004)	GB
0418556.7	19 August 2004 (19.08.2004)	GB
0422880.5	14 October 2004 (14.10.2004)	GB

- (71) Applicant (for all designated States except US): ARAKIS LTD. [GB/GB]; Chesterford Research Park, Little Chesterford, Saffron Walden, Essex CB10 1XL (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): BAXTER, Andrew, Douglas [GB/GB]; Arakis Ltd., Chesterford Research Park, Little Chesterford, Saffron Walden, Essex CB10 1XL (GB). BREW, John [GB/GB]; Arakis Ltd., Chesterford Research Park, Little Chesterford, saffron Walden, Essex CB10 1XL (GB).

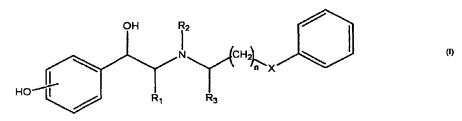
- (74) Agent: GILL JENNINGS & EVERY; Broadgate Hosue, 7 Eldon Street, London EC2M 7LH (GB).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## **Published:**

- with international search report
- (88) Date of publication of the international search report: 23 March 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: THE TREATMENT OF INFLAMMATORY DISORDERS AND PAIN USING BETA-AMINOALCOHOLS



O 2005/089741 A3

(57) Abstract: A compound (preferably bufeniode, denopamine, fenoterol, ifenprodil, isoxsuprine, labetol, medroxalol, mesuprine, nylidrin, protokylol, ractopamine, ritodrine, salmefamol or sulfinalol) that has utility in the treatment or prevention of a condition associated with T-cell proliferation or that is mediated by pro- and/or anti-inflammatory cytokines, and in particular a disease selected from the group consisting of rheumatoid arthritis, osteoarthritis, or osteoporosis, chronic demyelinating disease such as multiple sclerosis, respiratory diseases such as asthma or chronic obstructive pulmonary disease, inflammatory bowel disease (IBD) such as ulcerative colitis or Crohn's disease, dermatological conditions such as psoriasis, scleroderma or atopic dermatitis, dental diseases such as periodontal disease or gingivitis, diabetic nephropathy, lupus nephritis, IgA nephropathy or glomerulonephritis, systemic iupus erythomatosus (SLE), graft vs host disease, a pain condition, is of formula (I), wherein  $R_1$  is H or Me;  $R_2$  is H or alkyl and  $R_3$  is H or Me, or  $R_2$  and  $R_3$  are -CH<sub>2</sub>- thereby forming a ring; n is 0 to 2; X is CH<sub>2</sub> or O; and the two benzene rings are each optionally substituted with OH, OMe, halogen, NHCHO, NHSO<sub>2</sub>Me, CONH<sub>2</sub>, SOMe, OCH<sub>2</sub>O, or CH<sub>2</sub>OH.